

Memorandum

To: Environmental Flows Advisory Group
From: Texas Environmental Flows Science Advisory Committee
Date: 13 November 2012
Re: Review comments on the Colorado/Lavaca Work Plan dated June 26, 2012

Preface

The Environmental Flows Advisory Group (EFAG) requested that the Texas Environmental Flows Science Advisory Committee (SAC) review the Work Plan for the Colorado and Lavaca Rivers and Matagorda and Lavaca Bays (C/LA) Basin and Bay system. The EFAG requested the SAC to review this document pursuant to Texas Water Code 11.02361 (e)(1) and (p) as presented below:

Sec. 11.02361 (e)(1): “The science advisory committee [SAC] shall (1) serve as an objective scientific body to advise and make recommendations to the advisory group on issues relating to the science of environmental flow protection...”

Section 11.02362 (p): In recognition of the importance of adaptive management, after submitting its recommendations regarding environmental flow standards and strategies to meet the environmental flow standards to the commission, each basin and bay area stakeholders committee, with the assistance of the pertinent basin and bay expert science team, shall prepare and submit for approval by the advisory group a work plan. The work plan must:

- (1) establish a periodic review of the basin and bay environmental flow analyses and environmental flow regime recommendations, environmental flow standards, and strategies, to occur at least once every 10 years.
- (2) prescribe specific monitoring, studies, and activities; and
- (3) establish a schedule for continuing the validation or refinement of the basin and bay environmental flow analyses and environmental flow regime recommendations, the environmental flow standards adopted by the commission, and the strategies to achieve those standards.

In late June 2012, the Colorado and Lavaca Rivers and Matagorda and Lavaca Bays Basin and Bay Area Stakeholder Committee (BBASC) submitted a Draft Work Plan to the EFAG and to the Texas Commission on Environmental Quality (TCEQ). Copies were also provided to the SAC for review. Subsequently, the BBASC Vice Chairman presented an overview of the Draft Work Plan at the July 2012 SAC meeting. At that meeting, it was understood that the C/LA Draft Work Plan may possibly be revised by the BBASC pursuant to TCEQ rule making. As such, the SAC delayed its formal comments on the Draft but preliminary observations by members were incorporated into the July 2012 SAC meeting minutes. At the October 2012 SAC meeting, it was announced that the C/LA Draft Work Plan was considered Final by the C/LA BBASC, triggering formal SAC review.

The SAC previously published a guidance document entitled “Considerations and Development of Work Plan for Adaptive Management” (Report #SAC-2010-02). This document has been available to the C/LA BBASC, and served as the framework for this review.

Overview

The C/LA Work Plan Report is well written, contains a concise presentation of proposed Work Plan tasks and subtasks, and is structured in a logical progression from process to timeline to product to prioritization. The BBASC identified and described the study of sixteen (16) prioritized items, along with twenty (20) additional issues of concern for consideration. These items/issues identify review and collection efforts aimed at filling data voids identified by the BBEST and BBASC in their consideration of environmental flow needs for the basin and bay systems. The Work Plan addresses implementation up front in Section II, proposing an organizational meeting of all interested or involved parties six months after approval of the Work Plan by EFAG. The Work Plan recommends that responsibility for the majority of the prioritized items be assigned to TPWD, TWDB, and/or the TCEQ. Additionally in Section III, the Work Plan calls for a “continuing, and critically important role for the BBEST”.

Table 1 provides an overview of the 16 priority tasks/subtasks, furthered detailed in Table 2. The inclusion of the lead entity and rough cost range helps summarize the information. The task # column (albeit necessary to link to Table 2) is confusing at first glance. Table 2 provides a good description of the 16 priority issues with grey highlighting to indicate what components of each of those items are recommended by the BBASC as high priority. While this provides an initial prioritization, it would have been helpful if further work had been done to prioritize these 16 items. On the other hand, the SAC recognizes the reality of available funding for this work, and lack of additional priority assignment may be appropriate as available funding may dictate the means to accomplish individual items. The SAC notes, however, securing funding for specific items may actually benefit from being ranked high on a priority list; hence, the BBASC might consider adding an additional prioritization exercise to the roles assigned to the Work Plan sub group mentioned in Section II.

As with all BBASC’s to date, funding was highlighted as a likely limitation to full implementation of the Work Plan. The C/LA BBASC specifically requests that the EFAG and Legislature address SB3 work plan funding in the upcoming session, in addition to seeking ways to collaboratively fund Work Plan tasks from other funding sources. Absent early identification of sufficient funding, the BBASC plans to convene to identify and evaluate other methods for funding at least some of the priority items, and even suggests formation of a Funding Work Group. Overall, the discussion on funding and complicating factors is well presented and highlights serious concerns for SB3 adaptive management applicable beyond just the C/LA basin.

The Work Plan clearly identifies the BBASC as taking the leadership role in the execution, oversight and reporting of results. The BBASC also will be responsible for preparing any recommendations that come from the work plan process to be made to the EFAG and TCEQ regarding rule revisions. The BBASC is responsible for regularly monitoring progress, and adaptation of the Work Plan over time to meet its primary objectives. The Work Plan recommends continuation of funding for the BBEST so that they can fulfill a critical role to interpret the results of the various proposed studies, and assigns specific reporting functions to the BBEST.

The Work Plan process is thoroughly presented with broadly defined roles assigned to the State resource agencies, the BBASC, BBEST, and others. This includes the establishment of three work groups (Work Plan Work Group, Strategies Work Group, and Baseline Work Group). The SAC notes that it is not clear as to what role the BBEST is to play in the Baseline Work Group. It would appear that they would have substantial input to this effort. The Work Plan establishes a ten-year review period from the date of TCEQ rules adoption. As laid out, this appears to be an

appropriate time period to incorporate new information to inform the process. Additionally, the Work Plan recommends on-going strategies evaluation (independent of the ten-year review), under the direct purview of the BBASC. As this report is deemed final, for purposes of this SAC review, words such as “contemplate” used in the timeline section are interpreted to mean “final decisions”.

The recommendation for the establishment of a Baseline Work Group and baseline investigations is a slightly different approach than offered by previous BBASC work plans and raises some questions (bulleted below) that may need further documentation.

- To establish the environmental flow recommendations at selected locations, the BBEST determined whether a sound ecological environment (SEE) exists at each location. The Baseline Work Group is proposed to evaluate whether the flow regime (presumably that instituted in the rules) supports the SEE. The Baseline Work Group appears to be charged with the adaptive management function of assessing the actual performance of the recommended environmental flow regime and the need for any course changes. Making this determination is a critical step in the adaptive management process that will be important in setting priorities for further studies. Although the Work Plan states, “Achievement of baseline values would be used to assess whether or not flow regimes are maintaining a sound environment”, it is unclear whether the future establishment of an “ecological baseline condition” could alter the original decision of SEE for a particular location.
- The timeline for establishing ecological baselines is December 31, 2015 which seems appropriate for this information to be used in a meaningful fashion, but may be difficult at locations that require field investigations.
- The Adaptive Management Plan Flow Chart is a nice visual of the process proposed. However, some additional information regarding the box that states “Propose modification to **policy, regulation**, or management objectives as needed” as it relates to SB3 would have been useful.

SAC Observations on selected Work Plan Tasks

The following bullets address SAC concerns relative to individual subtasks.

- Item 1, Sub 2 – **“Review best available science for determining environmental flow regimes for streams”**: Components of this task look identical to the BBESTs original charge. It is unclear if this is only for sites that the BBEST didn’t include (Sub 1) or for all sites (as Sub 2 is the only one listed as high priority). Because of the timeline of December 31, 2015 for the establishment of environmental baseline conditions, it appears the 2016 report referenced in this task would be working primarily with existing data. Is an expansion of the BBEST sites or analysis of existing data a high priority work item? Or should new information first be acquired and compiled before time is spent on this charge? Looking for ways to “refine or replace HEFR” is a worthwhile exercise, but again, most likely feasible only when additional information is available.
- Item 2, Sub 3 – **“Describe relationships between physical habitat and flow”**: There is concern whether an approach that provided inconclusive results, which were not used in setting flow recommendations or in refining HEFR output during the

BBEST process, is appropriate for future monitoring. Additionally, there was discomfort from PHABSIM applications in other basins that the method (other than how it was used in the full SB2 type studies) would indicate whether certain flows in the regime needed to be smaller or larger based on weighted useable area. It is understood that previous BBEST contracted efforts were small snapshots of conditions at that time. However, this Work Plan task, applied over time, may provide a better understanding of how habitat conditions change relative to flow and could serve to assist in validation assessment of the recommendations. As SB2 studies cannot be conducted everywhere, the strategy of starting with only 2 sites in each basin on a test case basis is well-advised.

- Item 3, Sub 1 – **“Determine relationships between groundwater withdrawals from the Carrizo-Wilcox and the Gulf Coast aquifers, and flows to rivers.”** and Item 6 – **“Determine how groundwater development activities, as listed in the then current State and relevant Regional Water Plan, might influence river flows and the physical and hydrologic connections between surface water and groundwater.”**: These Work Plan tasks identify a need to look at the relationship between groundwater withdrawals and streamflows, suggesting that there is some adverse impact that relates back to flow recommendations. As no new permits are likely to be issued in the Lower Colorado basin, existing groundwater pumping may diminish flows but we are not sure how this will factor into the regulatory process. We acknowledge that as presented by the BBASC at the July 2012 SAC meeting, these tasks are included primarily for evaluation of environmental flow strategies.
- Item 10 – **“Develop a method for obtaining site-specific commercial fishing harvest data...”**: There is concern about the investment and possible limited return from obtaining and analyzing site-specific commercial fishing harvest data. We understand that fishermen may have more detail in catch data than they are required to report, but question how this will be accurately accounted for while still protecting the confidentiality of the data. The fundamental problem is that any data employed in a scientific analysis must be capable of disclosure to other scientists that desire to validate or extend that analysis. As presented by the BBASC at the July 2012 SAC meeting, we understand that the BBASC feels that all aspects of the commercial harvest data have not been thoroughly investigated. We share the BBASCs concern that this evaluation may not lead to anything but like the BBASC, also recognize that the potential to learn something from this exercise is worth some preliminary investigation.
- Item 12, Sub 5 – **“Evaluate relationships between freshwater inflow and the distribution, health, and abundance of seagrass in East Matagorda Bay and Matagorda Bay.”** *Vallisneria*, which requires salinity less than 10 ppt, doesn’t occur in Matagorda Bay. All other Texas seagrasses essentially require oceanic salinities, and are more responsive to turbidity than anything else. Turbidity is inversely related to inflow which is related to high salinity. As such, putting effort into confirming that seagrasses respond in this fashion may not be the best allocation of resources.